

Weekly Report for 03/31/2014

APS Renewal and Upgrade

- Prepared presentation to MBA pulsed kicker review. (Chih-Yuan Yao)
- Investigated FID feedthroughs that is planned for the fast stripline kickers with the vendor. (Chih-Yuan Yao)

MCR Operations

Booster Operations

- Investigated a change in booster QD and BM FFT waveform around summer last year. (Chih-Yuan Yao)

Procedures

- Resetting the Front End Equipment Protection System (FE-EPS) (APS_1273831) (Randy Flood)
- Posting Shutter Authorization Forms (APS_1273834) (Randy Flood)
- Operation of the Injector Test Stand ACIS (APS_1191879) (Randy Flood)
- Emergency Shut-Down for the Radio-Frequency (RF) Building Deionized Water System (APS_1193012) (Randy Flood)

MCR Operations administrative/misc.

- Rewrote operators' schedules through September to go back to old rotation (Randy Flood)
- Wrote operators' schedules through September (Randy Flood)
- Approved operators' time cards (Randy Flood)
- Approved vacation requests, set up coverage and updated the online schedule (Randy Flood)
- Approve CTLs, IT and Other work requests (Randy Flood)
- Review and clean the asdops mail account at least twice (Randy Flood)
- Check the status of open RMD's (Randy Flood)

APS Machine Studies

Storage Ring Studies

- Presented post-process loss monitor data from March 18 study with K Harkay. Temporal loss pattern generated by IK5 presented as a contour plot showing loss intensity during time in a turn (x-axis) and turn number (y-axis) for a 24-bunch fill pattern. (Jeff Dooling)
- Locations in a turn where losses occur early have the greatest depletion in charge; whereas, loss signals later indicate less charge loss. The pattern acts as a proxy for the IK5 kicker amplitude. (Jeff Dooling)
- Troubleshooted SR VSA power up problem. (Chih-Yuan Yao)
- assist in resolving SR pinger trigger source switching issue with Frank and Bob Laird. (Chih-Yuan Yao)

Booster Studies

- Completed IRamp test of ramp supplies with Hairong Shang. Installed the IRamp mode for operators to test during user operations. (Chih-Yuan Yao)
- Setup and tested injection tune controllaw for IRamp mode. (Chih-Yuan Yao)
- Analyzed radiation survey study data of BTS area and proposed recommendations. (Chih-Yuan Yao)

APS Machine Research and Development

Storage Ring Research and Development

- Continue to work with Xiang Sun and Leonard Morrison on the new S31 additional P0 feedback horizontal stripline design. (Chih-Yuan Yao)
- Continue to work with Agilent reps. and Hairong to resolve MXA upgrade and SR tune measurement alternative. (Chih-Yuan Yao)

Booster Research and Development

- Proposed a bus-ttie and single (master) supply of booster BM supplies during machine studies in order to isolate the pulse width variation of BM current waveforms. (Chih-Yuan Yao)

Linac Research and Development

- Worked with M. Martens (AES-MOM) to identify the source of interference blocking laser mirror insertion. Found insertion assembly was striking the wall of the vacuum cube; looks like the assembly had been bent. (Jeff Dooling)
- J. Gagliano (AES-MOM) was able to remove the back bearing in the actuator and pivot the mirror holder up over the edge of the wall without breaking vacuum. (Jeff Dooling)
- Will leave the mirror in place and not move it again during commissioning. (Jeff Dooling)
- Held an internal review for the pcgun drive laser system Friday. Need to complete final alignment of uv beam onto the photocathode using a green alignment laser, then ready to run uv to the pc. (Jeff Dooling)
- Will work with H. Shang to complete data capture script. (Jeff Dooling)

APS Machine Software

Injectors

- wrote c version fitiramp for computing the gain and delay of booster current waveform with correlation method, it is much faster than tcl script and it is being running on a workstation now to compute the IRamp gain and delay. (Hairong Shang)
- wrote c version computeRMS for computing the RMS value of $\Delta I/I$ of booster measured current waveform and reference current waveform, preparing for importing it in IOC. (Hairong Shang)
- installed fixrampcurrent for booster ramp correction with current (instead of voltage) regulation method. (Hairong Shang)
- modified fixrampIv through dividing the I- error by afgGain to fix the fluctuation problem of BM afgGain. (Hairong Shang)

- continue testing booster IRamp correction with CY. (Hairong Shang)
- added IRamp option to booster ramp correction software so that operator can switch booster ramp correction between VRamp and IRamp, will test during next machine study. (Hairong Shang)

General

- study MXA scope documentation and testing the SCPI commands, however, none commands worked so far, CY has contacted the technical support and requested onsite support. (Hairong Shang)

IOC/EPICS/Controls/Linux/Solaris/Linux Clusters/Data Loggers/Simulation software

- Administer the EPICS CVS repository to ensure current versions are installed and conflicts are tracked down and eliminated. (Randy Flood)

Web Site

- Updated a very out of date web page dealing with tunnel temps. (Randy Flood)

Meetings, workshops, conferences, committees, LMS related, and reviews

- Attended and presented at MBA kicker review. (Chih-Yuan Yao)
- Participated in the linac/par/booster ACIS reconfiguration discussions and meetings for high current study. (Chih-Yuan Yao)
- Met with AES about making changes to work request system. (Randy Flood)

Miscellaneous

- Administer multiple mailing lists and the elegant forum (Randy Flood)